

**CLAIMS**

1. A device for producing a fluid containing a radioactive constituent,  
the device comprising: a shielded chamber within which is located an  
5 isotope container housing a radioactive isotope, the shielded chamber  
including first and second fluid connections to opposing ends of the isotope  
container and a fluid conduit extending from each of the first and second  
fluid connections to a fluid inlet and a fluid outlet respectively characterised  
in that the fluid inlet comprises a single spike having a substantially circular  
10 cross-section, the spike being adapted to penetrate the rubber seal of a vial  
and the spike having two bores, the first bore extending from a first  
aperture adjacent the tip of the spike to a fluid connection with the fluid  
conduit and the second bore extending from a second, separate aperture in  
the spike to a filtering air inlet.  
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2. A device as claimed in claim 1 further comprising an outer housing  
which supports the fluid inlet and the fluid outlet and the spike of the fluid  
inlet projects through an aperture in the outer housing.
- 20 3. A device as claimed in claim 2, wherein the outer housing defines a  
well about the aperture through which the spike projects, the well being  
structured to receive a vial.
4. A device as claimed in any one of the preceding claims, wherein the  
25 filtering air inlet contains a filter disk of polytetrafluoroethylene.